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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/666,374

09/18/2003

Eldad Zeira

I-2-0395.1US

8496

24374 7590 10/18/2007

VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER

PHUONG, DAI

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

10/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/666,374 | Applicant(s) ZEIRA ET AL. | |
| | Examiner Dai A. Phuong | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 21-30, 40-48, 51-52, 55-56, 59-61, 63 and 65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 21-30, 40-48, 51-52, 55-56, 59-61, 63 and 65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments, filed 08/22/2007, with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 10, 21-25, 30, 40-44, 51-52, 55-56, 59-61, 63 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okajima et al. (Pub. No: 20010018346) in view of Sambhwani et al. (Pub. No: 20070217486) and further in view of Bayley et al. (U.S. 6944143).

Regarding claim 1, Okajima et al. disclose a method for receiving at least one desired communication signal in a wireless communication system, the method comprising:

receiving a plurality of communication signals (fig. 3 and fig. 8, [0060], [0062] to [0068]);

selecting communication signals of the plurality of communication signals, the selected communication signals including each desired communication signal and a plurality of undesired communication signals originating from a plurality of other cell, wherein the plurality

of undesired communication signals originals from the plurality of other cells each include a cell address number ([0064] to [0074]);

selecting at least one particular undesired signal of the plurality of undesired signals for processing from at least one highest ranked other cell ([0064] to [0074]);

producing a channel estimate for each selected communication signal based on the cell of that selected undesired communication ([0062] to [0068]); and

jointly detecting data of the selected communication signals (fig. 3 and fig. 8, [0058], [0068] and [0096]).

However, Okajima et al. do not disclose identifying the plurality of other cells based upon the cell specific scrambling code; ranking the plurality of other cells based upon the received power originating from the plurality of other cells.

In the same field of endeavor, Sambhwani et al. disclose identifying the plurality of other cells based upon the cell specific scrambling code ([0026]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile station of Okajima et al. by specifically identifying the plurality of other cells based upon the cell specific scrambling code, as taught by Sambhwani et al., the motivation being in order to detect or identify the base station or cell.

In the same field of endeavor, Bayley et al. disclose ranking the plurality of other cells based upon the received power originating from the plurality of other cells (col. 16, lines 25-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile station of Okajima et al. by specifically including ranking the plurality of other cells based upon the received power originating from the plurality of other cells, as taught by Bayley et al., the motivation being in order to determine when a hand-off should occur.

Regarding claim 2, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 1. Further, Okajima et al. disclose the method wherein the selecting of communication signals is based on a received power of each communication signal ([0062] to [0068]).

Regarding claim 3, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 2. Further, Okajima et al. disclose the method wherein the selected communication signals have a received power exceeding a threshold ([0062] to [0068], [0088]).

Regarding claim 4, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 2. Further, Okajima et al. disclose the method wherein the selected communication signals number a fixed value of N (fig. 3, [0062] to [0068]).

Regarding claim 5, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 1. Further, Okajima et al. disclose the method wherein the selecting of communication signals is based on a received power of each communication signal per symbol ([0008], [0057]-[0058]).

Regarding claim 10, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 1. Further, Okajima et al. disclose the method wherein at least one communication signal from another cell includes a communication signal transmitted from one wireless transmit/receive unit 42 and 43 for reception by another wireless transmit/receive unit 45 and 46 (fig. 3 and fig. 8, [0060], [0062] to [0068])

Regarding claim 21, this claim is rejected for the same reason as set forth in claim 1.

Regarding claim 22, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 23, this claim is rejected for the same reason as set forth in claim 3.

Regarding claim 24, this claim is rejected for the same reason as set forth in claim 4.

Regarding claim 25, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 30, this claim is rejected for the same reason as set forth in claim 10.

Regarding claim 40, this claim is rejected for the same reason as set forth in claim 1.

Regarding claim 41, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 42, this claim is rejected for the same reason as set forth in claim 3.

Regarding claim 43, this claim is rejected for the same reason as set forth in claim 4.

Regarding claim 44, this claim is rejected for the same reason as set forth in claim 5.

Regarding claim 51, this claim is rejected for the same reason as set forth in claim 1.

Regarding claim 52, Okajima et al. disclose all the limitations in claim 11. Further, Okajima et al. disclose the method wherein the selecting N communication signals includes all of the communication signals of a cell of the joint detector (fig. 3 and fig. 8, [0062] to [0067]).

Regarding claim 55, this claim is rejected for the same reason as set forth in claim 51.

Regarding claim 56, this claim is rejected for the same reason as set forth in claim 52.

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Regarding claim 59, this claim is rejected for the same reason as set forth in claim 57.

Regarding claim 60, this claim is rejected for the same reason as set forth in claim 58.

Regarding claim 61, this claim is rejected for the same reason as set forth in claim 54.

Regarding claim 63, this claim is rejected for the same reason as set forth in claim 54.

Regarding claim 64, this claim is rejected for the same reason as set forth in claim 59.

Regarding claim 65, this claim is rejected for the same reason as set forth in claim 59.

4. Claims 6, 26, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okajima et al. (Pub. No: 20010018346) in view of Sambhwani et al. (Pub. No: 20070217486) and further in view of Bayley et al. (U.S. 6944143) and further in view of Hasegawa (U.S. 5862476).

Regarding claim 6, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 1. However, the combination of Okajima et al., Sambhwani et al. and Bayley et al. do not disclose the method wherein the selecting of communication signals is based on a received power of each communication signal over a specified time period.

In the same field of endeavor, Hasegawa discloses the method wherein the selecting of communication signals is based on a received power of each communication signal over a specified time period (col. 15, lines 1-11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile station of the combination of Okajima et al., Sambhwani et al. and Bayley et al. by specifically including the selecting of communication signals is based on a received power of each communication signal over a specified time period,

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as taught by Hasegawa, the motivation being in order to provide a good quality communication service.

Regarding claim 26, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 45, this claim is rejected for the same reason as set forth in claim 6.

5. Claims 7-9, 27-29, 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okajima et al. (Pub. No: 20010018346) in view of Sambhwani et al. (Pub. No: 20070217486) and further in view of Bayley et al. (U.S. 6944143) and further in view of Hudson (Pub. No: 20020176485).

Regarding claim 7, the combination of Okajima et al., Sambhwani et al. and Bayley et al. disclose all the limitations in claim 1. Further, Okajima et al. disclose the method wherein the wireless communication system is a time divided code division multiple access communication system ([0006]). However, the combination of Okajima et al., Sambhwani et al. and Bayley et al. do not disclose the producing channel estimates is by implementing a Steiner algorithm for a plurality of cells.

In the same field of endeavor, Hudson discloses the producing channel estimates is by implementing a Steiner algorithm for a plurality of cells ([0006]-[0008] and [0040]-[0041] and 0051))

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile station of the combination of Okajima et al., Sambhwani et al. and Bayley et al. by specifically including the producing channel estimates is by implementing a Steiner algorithm for a plurality of cells, as taught by Hudson, the motivation being in order to allow adequate interference cancellation of intercell interference.

Regarding claim 8, the combination of Okajima et al. and Hudson disclose all the limitations in claim 7. Further, Okajima et al. disclose the method wherein the time divided code division multiple access communication system is a time division duplex wideband code division multiple access communication system (fig. 1, [0006] to [0008]).

Regarding claim 9, the combination of Okajima et al. and Hudson disclose all the limitations in claim 7. Further, Okajima et al. disclose the method wherein the time divided code division multiple access communication system is a time division synchronous code division multiple access communication system (fig. 1, [0006] to [0008]).

Regarding claim 27, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 28, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 29, this claim is rejected for the same reason as set forth in claim 9.

Regarding claim 46, this claim is rejected for the same reason as set forth in claim 7.

Regarding claim 47, this claim is rejected for the same reason as set forth in claim 8.

Regarding claim 48, this claim is rejected for the same reason as set forth in claim 9.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen M Duc can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-7503.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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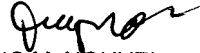
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Dai Phuong

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Date: 10/10/07



DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600